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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** **Date: 14-03-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/252/2018-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-03-2019 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 (Part 1,2 3,4,5, 6,11):1988<br>IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 12-03-2019 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| Sl.No. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 1.76 | _ |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 292.1 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.12 | _ |
| 4 | Standard Consistency (%) | 28.0% | Not specified |
| 5 | Initial Setting time | 155 minutes | Not less than 30 minutes |
| 6 | Final Setting time | 270 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) | 1mm | Not more than 10 mm |

**Note:**

The results pertain to the samples received and tested.

All information furnished by Customer/Representative

Any correction in the report will make this report invalid

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Samples will be disposed after 90 days from the date of issue of test certificate

**FOR CIVIL Pro.**

**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**

AE

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | | |
|---|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** | **Date: 09-04-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. | |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. | |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. | |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. | |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/252/2018-19 | |
| **Source of Sample** | : | Sample supplied by Agency | |
| **Sample Condition** | : | Satisfactory | |
| **Date of Receipt** | : | 11-03-2019 | |
| **Sample Type** | : | Birla Super 53grade | |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 6, Determination of Compressive Strength, Clause 6 | |
| **Date of test** | : | 12-03-2019 | |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% | |

| **Compressive Strength** | | | |
|---|---|---|---|
| **Sl.No.** | **Physical properties** | **Results** | **Requirement as per IS 12269: 2013** |
| 1 | 3 Days | 28.5N/mm$^2$ | Not less than 27 N/mm$^2$ |
| 2 | 7 Days | 39.0N/mm$^2$ | Not less than 37 N/mm$^2$ |
| 3 | 28 Days | 58.5N/mm$^2$ | Not less than 53 N/mm$^2$ |

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Assistant Executive Engineer,
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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** **Date: 14-03-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/252/2018-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-03-2019 |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 11-03-2019 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken : 15000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80 mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 389 | 389 | 2.6 | 97.4 | 90-100 |
| 3 | 20 mm | 7445 | 7834 | 52.2 | 47.8 | 30-70 |
| 4 | 10 mm | 4896 | 12730 | 84.9 | 15.1 | 10-35 |
| 5 | 4.75 mm | 1805 | 14535 | 96.9 | 3.1 | 0-5 |
| 6 | Pan | 465 | 15000 | 100.0 | 0 | --- |



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2019-09-11-30** **Date: 14-03-2019**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 11.2 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 9.6 | |
| 3 | Specific Gravity | 2.66 | _ |
| 4 | Bulk Density(Loose) (Kg/l) | 1.39 | _ |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.45 | _ |
| 6 | Water Absorption(%) | 0.29 | _ |

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**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**

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Bangalore.

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** **Date: 13-03-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. |
| **Customer Reference** | : | BBMP/EE/BTP/WO/252/2018-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 11-03-2019 |
| **Sample Type/ Size** | : | 20mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 11-03-2019 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:**

**Total weight taken : 5000 grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 40 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 20 mm | 189 | 189 | 3.8 | 96.2 | 90-100 |
| 3 | 10 mm | 2499 | 2688 | 53.8 | 46.2 | 25-55 |
| 4 | 4.75 mm | 2011 | 4699 | 94.0 | 6.0 | 0-10 |
| 5 | Pan | 301 | 5000 | 100 | 0 | _ |



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2019-09-11-30** **Date: 13-03-2019**

### PHYSICAL PROPERTIES

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 13.9 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 12.5 | |
| 3 | Specific Gravity | 2.63 | – |
| 4 | Bulk Density(Loose) (Kg/l) | 1.43 | – |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.49 | – |
| 6 | Water Absorption(%) | 0.38 | – |
| 7 | Aggregate crushing Value(%) | 26.5 | Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface. |
| 8 | Aggregate Impact Value(%) | 28.1 | 30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface. |

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**R KARTHIK RECHAN**
Authorized Signature
**Quality Manager**

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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2019-09-11-30** **Date: 13-03-2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 11-03-2019

**Sample Type** : Fine Aggregate

**Reference to BIS codes** : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

**Date of test** : 11-03-2019

**Total weight taken** : 1000 grams

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 27 | 27 | 2.7 | 97.3 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 55 | 82 | 8.2 | 91.8 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 239 | 321 | 32.1 | 67.9 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 205 | 526 | 52.6 | 47.4 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 203 | 729 | 72.9 | 27.1 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 191 | 920 | 92.0 | 8.0 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 80 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**



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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2019-09-11-30** **Date: 13-03-2019**

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS 383:2016 |
|---|---|---|---|
| 1 | Water Absorption(%) | 1.5 | – |
| 2 | Specific Gravity | 2.59 | – |
| 3 | Material finer than 75 micron(%) | 6.9 | Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10% |

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**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**

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Yelahanka Zone, B.B.M.P.,
Bangalore.

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# TEST REPORT OF PRECAST COVER SLAB

**Lab ID** : **CP-2019-09-11-30** **Date: 22-03-2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Sample Type /Size** : Precast Cover Slab(250 mm)

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete

**Date of test** : 18/03/2019

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 200.51 | 250.48 | 3.116 | 31570 | 240.9 | 7.6 | 7.1 | 8.9 |
| 2 | Cover Slab-2 | 200.49 | 250.52 | 3.122 | 31564 | 242.3 | 7.7 | 7.1 | 8.9 |
| 3 | Cover Slab-3 | 200.50 | 250.51 | 3.118 | 31567 | 241.5 | 7.7 | 7.1 | 8.9 |

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**Quality Manager**

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 23/03/2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 23/03/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.93 X 149.46 X 150.52 | 22708 | **8.250** | 286.7 | 12.6 | 12.6 |
| 2 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.90 X 149.32 X 149.93 | 22683 | **8.914** | 289.0 | 12.7 | |
| 3 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.78 X 151.45 X 149.32 | 22987 | **8.564** | 284.6 | 12.4 | |

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 13/04/2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 13/04/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 13/04/2019 | 150.06 X 149.29 X 151.05 | 22403 | **8.234** | 389.5 | 17.4 | 17.4 |
| 2 | PCC | M15 | 16/03/2019 | 13/04/2019 | 150.20 X 151.49 X 149.72 | 22754 | **8.352** | 388.0 | 17.1 | |
| 3 | PCC | M15 | 16/03/2019 | 13/04/2019 | 149.18 X 149.32 X 149.80 | 22276 | **8.730** | 395.3 | 17.7 | |

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**Quality Manager**

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 23/03/2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 23/03/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 23/03/2019 | 150.02 X 150.71 X 151.86 | 22610 | **8.250** | 293.2 | 13.0 | 12.8 |
| 2 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.43 X 150.51 X 150.69 | 22791 | **8.914** | 294.1 | 12.9 | |
| 3 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.68 X 151.23 X 150.33 | 22939 | **8.564** | 285.0 | 12.4 | |

**Note:**

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AE

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

CIVIL Pro Sig. Date. BANGALORE

**FOR CIVIL Pro.**

**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**



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# 4, 7TH MAIN MALLESWARAM, BANGALORE -3

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 13/04/2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 13/04/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 13/04/2019 | 150.86 X 149.32 X 149.91 | 22526 | **8.234** | 393.7 | 17.5 | 17.3 |
| 2 | PCC | M15 | 16/03/2019 | 13/04/2019 | 149.24 X 149.41 X 150.60 | 22299 | **8.352** | 380.4 | 17.1 | |
| 3 | PCC | M15 | 16/03/2019 | 13/04/2019 | 150.74 X 151.88 X 149.78 | 22895 | **8.730** | 400.3 | 17.5 | |

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Authorized Signatory
**Quality Manager**

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 23/03/2019**

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**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

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**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 23/03/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 23/03/2019 | 149.02 X 149.77 X 149.10 | 22318 | **8.250** | 287.6 | 12.9 | 12.7 |
| 2 | PCC | M15 | 16/03/2019 | 23/03/2019 | 151.30 X 149.27 X 150.40 | 22585 | **8.914** | 275.5 | 12.2 | |
| 3 | PCC | M15 | 16/03/2019 | 23/03/2019 | 150.05 X 150.83 X 151.25 | 22632 | **8.564** | 293.3 | 13.0 | |

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# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : **CP-2019-09-11-30** **Date: 13/04/2019**

**Customer** : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

**Address** : Kodigehalli Sub Division, BBMP, Bangalore.

**Project Name** : Desilting of Existing Storm Water Drains Ward No.8.

**Agency** : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010.

**Customer's Reference** : BBMP/EE/BTP/WO/252/2018-19

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 18-03-2019

**Customer ID** : PCC

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M15 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 13/04/2019

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | PCC | M15 | 16/03/2019 | 13/04/2019 | 151.62 X 149.59 X 149.94 | 22681 | **8.234** | 396.3 | 17.5 | 17.3 |
| 2 | PCC | M15 | 16/03/2019 | 13/04/2019 | 150.62 X 151.62 X 150.43 | 22837 | **8.352** | 389.3 | 17.0 | |
| 3 | PCC | M15 | 16/03/2019 | 13/04/2019 | 151.90 X 149.09 X 151.06 | 22647 | **8.730** | 393.5 | 17.4 | |

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# TEST RESULTS FOR CHAIN LINK FENCING

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** **Date: 25-03-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/252/2018-19 |
| **Sourse of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 23-03-2019 |
| **Type of Sample** | : | Chain Link Fencing |
| **Reference to BIS codes** | : | IS 2062:2011 |
| **Date of testing** | : | 23-03-2019 |

| TESTS RESULT FOR WIRE MESH | | |
|---|---|---|
| **SL.NO** | **Description** | **Result** |
| **1** | **Average Thickness in mm** | 4.04 |
| **2** | **Dia of linewire in mm** | 3.14 |
| **3** | **Mesh size in mm** | 50.01 |
| **4** | **Nominaldia of meshwire in mm** | 2.52 |
| **5** | **Bend Test** | Satisfactory |

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**Quality Manager**

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Bangalore

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# TEST RESULTES FOR MS RECTANGULAR POLE

| | | |
|---|---|---|
| **Lab ID** | : **CP-2019-09-11-30** | **Date: 22-03-2019** |
| **Customer** | : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. | |
| **Address** | : Kodigehalli Sub Division, BBMP, Bangalore. | |
| **Project Name** | : Desilting of Existing Storm Water Drains Ward No.8. | |
| **Agency** | : Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. | |
| **Customer's Reference** | : BBMP/EE/BTP/WO/252/2018-19 | |
| **Sourse of Sample** | : Sample supplied by Agency | |
| **Sample Condition** | : Satisfactory | |
| **Date of Receipt** | : 21-03-2019 | |
| **Type of Sample** | : M.S Rectangular Pole(65X65X6)mm | |
| **Reference to BIS codes** | : IS:1608-2005(RA 2011), IS 1599-2012. | |
| **Date of testing** | : 21-03-2019 | |

**TESTS RESULTS FOR M.S RECTANGULAR POLES MADE OUT OF 2 EQUAL ANGLES OF 65 X 65 X 6 MM WELDED TOGETHER**

| SL.NO | Description | Result | Required as per IS Code 2062:2011 | Remarks |
|---|---|---|---|---|
| 1 | Weight/Meter (Kg /m) | 5.81 | 5.8 Kg/m | Satisfactory |
| 2 | Yeild stress (N/mm2) | 278 | 250N/mm$^2$ | Satisfactory |
| 3 | Tensile Strength (N/mm2) | 485 | 410N/mm$^2$ | Satisfactory |
| 4 | Elongation Percentage (%) | 23.5 | Min23% | Satisfactory |
| 5 | Bend Test | Satisfactory | Should not Crack or fracture | Satisfactory |

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CIVIL Pro Sig..... Date..... BANGALORE


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# TEST RESULTES FOR MS BLOCK PIPE

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2019-09-11-30** **Date: 20-03-2019** |
| **Customer** | : | Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore. |
| **Address** | : | Kodigehalli Sub Division, BBMP, Bangalore. |
| **Agency** | : | Executive Engineer, Karnataka Rural Infrastructure Development Ltd,#280, 59th Cross Road, 17th 'C' Main Road, 3rd 'Y' Block, Rajajinagara, Bangalore-560 010. |
| **Project Name** | : | Desilting of Existing Storm Water Drains Ward No.8. |
| **Customer's Reference** | : | BBMP/EE/BTP/WO/252/2018-19 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 19-03-2019 |
| **Type of Sample** | : | M.S Block Pipe |
| **Reference to BIS codes** | : | IS:1608-2005(RA 2011), IS 1599-2012. |
| **Date of testing** | : | 19-03-2019 |

| **TESTS RESULTS FOR MS BLOCK PIPE 38MM DIA, 14 GAUGE** | | | | |
|---|---|---|---|---|
| **Sl. No** | **Description** | **Result** | **Required as per as IS Code 2062: 2011** | **Remarks** |
| 1 | Yeild Stress (N/mm2) | 299 | 250N/mm$^2$ | Satisfactory |
| 2 | Tensile Strength (N/mm2) | 509 | 410N/mm$^2$ | Satisfactory |
| 3 | Elongation Percentage (%) | 24 | Min 23% | Satisfactory |

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BBMCL.N.D
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